

CLAIMS

What is claimed is:

1. A method for providing financial assurance for decommissioning a nuclear power facility via an insurance policy, the method comprising the steps of:

5 supplying, by an insurer, the insurance policy to a trust, said insurance policy includes a predetermined monetary premium payable to said insurer;
receiving said premium by said insurer from said trust; and
paying by said insurer, in accordance with terms of said insurance policy, actual decommission expenses to said trust between a policy inception date and a policy termination date,
10 to provide financial assurance for decommissioning said facility.

2. The method of claim 1, further comprising the step of investing, by said insurer, the received premium in a financial instrument.

15 3. The method of claim 2, wherein said step of paying actual decommission expenses pays said trust using proceeds at least in part from the invested premium.

4. The method of claim 1, wherein said premium is calculated by:

20 (a) determining a plurality of scenarios, wherein each scenario is based on the decommission starting on a different time schedule, and wherein each scenario has a monetary sum;
(b) determining a net present value (NPV) of expected decommissioning expenses for each said scenario;

(c) determining a risk transfer element for each said scenario, said risk transfer element being an NPV of unexpected expenses multiplied by a probability of actual occurrence;

(d) determining insurer expenses for each said scenario, said insurer expenses being an NPV of expected expenses incurred by an insurer of said facility;

5 (e) adding the monetary value of steps (b), (c), and (d), for each scenario, to calculate said monetary sum of each said scenario; and

(f) adjusting said monetary sum of each said scenario, so that each said monetary sum is substantially equal,

wherein said premium of said insurance policy is based on the adjusted sum.

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5. The method of claim 1, wherein said step of paying pays said actual decommission expenses to said trust, between the policy inception and termination dates, based on a predetermined time schedule, wherein said predetermined time schedule includes a plurality of stages.

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6. The method of claim 5, wherein said stages include a first, second, and third stage, wherein said first stage includes a time period for removing spent fuel and disconnecting operating systems from said facility, said second stage includes a time period for dismantling all equipment and buildings of said facility, except a reactor core and its shielding, and said third stage includes a time period removing all materials with radioactivity levels above a predetermined limit.

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7. The method of claim 1, wherein said insurance policy is an existing insurance policy between said policy inception and termination dates.

8. The method of claim 1, wherein said trust is one of a qualified or non-qualified trust.
9. The method of claim 1, wherein the step of paying further pays, in accordance with said terms of said insurance policy, unexpected decommissioning expenses.
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10. The method of claim 1, wherein said premium is received in one of a onetime payment or a series of periodic payments.
11. An insurance policy for providing financial assurance for the decommissioning of a nuclear power facility, said policy providing, in exchange for payment of a premium, for an insurer to pay actual decommissioning expenses for said nuclear power facility between a policy inception date and a policy termination date.
12. An insurance policy, issued by an insurer, for providing financial assurance for decommissioning a nuclear power facility, comprising:
- 15 a plurality of self-insured retention monetary values, wherein each said retention monetary value being linked to a respective time schedule;
- a predetermined monetary premium;
- terms providing for the receipt of said premium from a trust payable to said insurer; and
- 20 terms providing for the payment by said insurer of actual decommission expenses, less a selected one of said retention monetary values, to said trust, to provide financial assurance for decommissioning said facility,

wherein said one of said retention monetary values is selected based on a start time, in said respective time schedule, that said decommissioning begins.

13. The insurance policy of claim 12, wherein said terms for providing payment includes terms
5 wherein payment is made to said trust using proceeds from the invested premium.

14. The insurance policy of claim 12, wherein said terms for providing payment includes terms
wherein payment is made based on a predetermined time schedule, wherein said predetermined time
schedule includes a plurality of stages.

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15. The insurance policy of claim 14, wherein said stages include a first, second, and third
stage, wherein said first stage includes a time period for removing spent fuel and disconnecting
operating systems from said facility, said second stage includes a time period for dismantling all
equipment and buildings of said facility, except a reactor core and its shielding, and said third stage
15 includes a time period removing all materials with radioactivity levels above a predetermined limit.

16. The insurance policy of claim 12, wherein said insurance policy is an existing insurance
policy between said policy inception and termination dates.

20 17. The insurance policy of claim 12, wherein said trust is one of a qualified or non-qualified
trust.

18. The insurance policy of claim 12, wherein said terms for providing payment includes terms
wherein payment is further made for unexpected decommissioning expenses.

19. The insurance policy of claim 12, wherein said premium is received in one of a onetime
5 payment or a series of periodic payments.

20. A method for determining a premium of an insurance policy for decommissioning a nuclear
power facility, comprising the steps of:

(a) determining a plurality of scenarios, wherein each scenario is based on the
10 decommission starting on a different time schedule, and wherein each scenario has a monetary sum;

(b) determining a net present value (NPV) of expected decommissioning expenses for
each said scenario;

(c) determining a risk transfer element for each said scenario, said risk transfer
element being an NPV of unexpected expenses multiplied by a probability of actual occurrence;

15 (d) determining insurer expenses for each said scenario, said insurer expenses
being an NPV of expected expenses incurred by an insurer of said facility;

(e) adding the monetary value of steps (b), (c), and (d), for each scenario, to
calculate said monetary sum of each said scenario; and

(f) adjusting said monetary sum of each said scenario, so that each said monetary sum
20 is substantially equal,

wherein said premium of said insurance policy is based on the adjusted sum.

21. The method of claim 20, wherein said step of adjusting comprises the step of subtracting an independent self-insured retention value from at least one said monetary sum to obtain said adjusted sum.

5 22. The method of claim 20, wherein said steps (a) - (f) are performed by a computerized system.

23. The method of claim 21, wherein if the value of each said monetary sum is different, then the value of each said independent self-insured retention value is also different.

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24. The method of claim 20, further comprising the step of determining said premium based on the sum of said adjusted sum and an insurance profit value.

25. The method of claim 20, wherein said different time schedule is a successive year.

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26. The method of claim 20, wherein said insurer expenses are at least one of monitoring costs, engineering expenses, and taxes.

20 27. The method of claim 20, wherein said self-insured retention is the amount of decommissioning costs that said facility has retained separate from said insurance policy.

28. The method of claim 20, wherein said insurance policy is an existing insurance policy between said policy inception and termination dates.

29. An insurance policy, issued by an insurer, for decommissioning a nuclear power facility, said policy comprising a monetary premium that is determined based on a plurality of scenarios, wherein each scenario is based on the decommission starting on a different time schedule, wherein each scenario has a monetary sum, and wherein said premium is based on an adjusted sum of each 5 said scenario, said adjusted sum being determined by the method of:

(a) determining a net present value (NPV) of expected decommissioning expenses for each said scenario;

(b) determining a risk transfer element for each said scenario, said risk transfer element being an NPV of unexpected expenses multiplied by a probability of actual occurrence;

10 (c) determining insurer expenses for each said scenario, said insurer expenses being an NPV of expected expenses incurred by an insurer of said facility;

(d) adding the monetary value of steps (a), (b), and (c), for each scenario, to calculate said monetary sum of each said scenario; and

(e) adjusting said monetary sum of each said scenario, so that each said monetary sum 15 is substantially equal,

wherein said premium of said insurance policy is based on the adjusted sum.

30. The insurance policy of claim 29, wherein said step of adjusting comprises the step of subtracting an independent self-insured retention value from each said monetary sum to obtain said 20 adjusted sum.

31. The insurance policy of claim 29, wherein said steps (a) - (e) are performed by a computerized system.

32. The insurance policy of claim 30, wherein if the value of each said monetary sum is different, then the value of each said independent self-insured retention value is also different.

5 33. The insurance policy of claim 29, further comprising the step of determining said premium based on the sum of said adjusted sum and an insurance profit value.

34. The insurance policy of claim 29, wherein said different time schedule is a successive year.

10 35. The insurance policy of claim 29, wherein said insurer expenses are at least one of monitoring costs, engineering expenses, and taxes.

36. The insurance policy of claim 29, wherein said self-insured retention is the amount of decommissioning costs that said facility has retained separate from said insurance policy.

15 37. The insurance policy of claim 29, wherein said insurance policy is an existing insurance policy between said policy inception and termination dates.